

**STATE OF CALIFORNIA
ENERGY RESOURCES CONSERVATION
AND DEVELOPMENT COMMISSION**

In the Matter of:)	Docket No. 04-IEP-01F
The Preparation of the 2005 Integrated)	Re: Transmission-Renewables
Energy Policy Report (Energy Report))	Operational Integration Issues

**REPLY COMMENTS OF THE
CALIFORNIA WIND ENERGY ASSOCIATION
ON OPERATIONAL INTEGRATION ISSUES ASSOCIATED WITH
TRANSMISSION AND RENEWABLE GENERATION**

The California Wind Energy Association (CalWEA) appreciates this opportunity to provide these written comments in response to the February 3, 2005, IEPR Committee Workshop on Transmission-Renewables Operational Integration Issues and related materials. We comment on the January 17, 2005, "Assessment of Reliability and Operational Issues for Integration of Renewable Generation: Background Material for California Energy Commission Stakeholder Workshop" ("Background Report"), some of the presentations made at the workshop, and the associated overall project ("Project") which is scheduled to culminate in a June 2005 report and recommendations, in time to be integrated into the *Integrated Energy Policy Report* ("IEPR") process. These comments build upon the oral comments that we provided at the workshop, and respond to the specific questions posed in Attachment A to the workshop agenda.

A. Summary of Comments

As there is a tremendous amount of subject matter covered by this Project, we do not address in these comments every topic and statement in the materials. Rather, we have tried to categorize the problems and illustrate them with examples.

In general, we find that the Project has not been well-conceived. It is disorganized and lacks focus. Its presentation of the issues fails to reflect current wind technology, current analytical thinking on wind integration, and recent and ongoing institutional efforts addressing wind-related operational issues. It unfairly attributes to wind problems that are not unique to wind, and fails to take an integrated system view when a broader view is necessary to promote efficient operation of the grid overall. In particular, our views on the effort are as follows:

- The Project is not focused. It does not distinguish between relatively routine issues (such as voltage regulation) that are being or will be handled in the

appropriate technical forums, and “problems” that are not being adequately addressed.

- The Project suffers from an alarmist quality and perpetuates myths (e.g., that wind requires dedicated back-up resources).
- The Background Report reflects past historical issues, such as insufficient VAR support and lack of wind forecasting, without adequately accounting for technological advances and evolving market rules which have obviated many of those issues.
- The issues list includes many issues that are not appropriately characterized as “renewables operational integration issues” because they are issues that are not caused by, or are not uniquely associated with, renewables. The IEPR process should address (and maybe already is addressing) these issues, but it should not be done in the context of *renewables* operational issues. Treating regulation and integration issues in isolation with respect to wind is not productive.
- The Project appears to be disconnected from, and uninformed by, the PIER program’s excellent work on the RPS Integration Cost Studies, which is on-going. The efforts should be coordinated.
- The Project appears to be uninformed by the work well underway at FERC, the Utility Wind Interest Group, WECC, and elsewhere. Far more comprehensive summaries of this work, as well as up-to-date analyses on many of these issues, are available but are not reflected in the Project.¹

Recommendations:

- (1) The IEPR’s discussion of renewables integration/operational issues should draw from the California-specific, detailed analyses that the PIER program team has conducted and continues to conduct in many of these topic areas, rather than from this Project’s laundry list of potential issues drawn from myriad studies that may or may not be relevant to California’s current situation.
- (2) This Project should be reconsidered and refocused for the 2006 IEPR process. The effort should focus on the system as a whole, with an eye toward optimizing grid operations in view of the state’s mandated renewable energy goals. The effort should consider the most efficient integration of all resources (and large single loads), separating out issues associated with resource or technology characteristics and issues caused by contractual constraints.

¹ See, e.g., *Wind Power in Power Systems*, Edited by T. Ackermann, © 2005 John Wiley & Sons, Ltd, ISBN 0-470-85508-8 <http://www.windpowerinpowersystems.info/index.html>. See also, generally, the materials available on the website of the Utility Wind Interest Group, www.uwig.org

These criticisms are not meant to suggest that there are no *renewables-specific* operational integration issues deserving of California Policymakers' attention. But they are relatively narrow in scope. We identify some that we believe are deserving of attention.

B. Responses to Questions 1, 2 and 4

We address questions 1, 2 and 4 together: (1) Is the List of Issues (in Attachment A) Valid? (2) Have the Issues Been Accurately Characterized? and (4) Is the Study Headed in the Right Direction and Adequately Focused?

In short, no, the list of issues is not valid as an appropriate scope for this effort and, no, the study is not headed in the right direction nor is it adequately focused, for the following reasons.

1. The Project is not focused. It does not distinguish between relatively routine issues that are being or will be handled in the appropriate technical forums, and “problems” that are not being adequately addressed.

In general, there is a “can’t see the forest for the trees” problem in this effort: the work to date fails to sort through the myriad “issues” to identify those that are deserving of California policymakers’ attention. The Background Report, and some of the workshop presentations, focus on past historical problems and fail to put into perspective and differentiate those that have already been addressed. The Project does a poor job of informing readers of the efforts now underway in various responsible forums, such as the Western Electricity Coordinating Council (WECC) and the Federal Energy Regulatory Commission (FERC) that are addressing many of the technical issues described.

For example, the Background Report, and in some cases the workshop presentations, considers at some length voltage performance (issue number 6) and electrical governor performance (issue number 7) but does not place these issues in the proper perspective. The Report asks arcane questions like “What is the relationship between the energy output and the electrical frequency for intermittent generation during disturbances?”² (without contributing any new insights or proposing analyses on such topics), but does not point out that these issues are being handled adequately by WECC, FERC, and others. Nor does the Report anticipate the system impact of new operational standards being developed by the FERC in its wind interconnection docket.³

² Background Report, p. 12.

³ See Assessing the State of Wind Energy in Wholesale Electricity Markets, FERC Docket No. AD04-13. In this docket, FERC is developing SCADA system and VAR requirements for new projects. A new North American Reliability Council (NERC) task force is also addressing these types of issues (see http://www.nerc.com/pub/sys/all_updl/docs/news/news0105.pdf).

There is no reason to expect that these issues cannot or will not be appropriately and successfully handled in these forums. Similarly, some issues can be expected to be addressed during individual generator interconnection processes, and others may be addressed through California's changing market design.⁴ The report would better serve policymakers if it were to broadly characterize the issues, describe the progress being made on them in other forums, and identify any issues that are not being addressed and which California policymakers should attend to (we identify a few such items in Section D, below).

Alternatively, if the Energy Commission wishes to delve into these technical issues in order to assist other agencies that are making decisions on these issues, it should commission serious work on the topics (as it is, in fact, doing through the PIER program – see Section C, below).

2. The Project suffers from an alarmist quality and perpetuates myths. The Project does not differentiate between near-term integration issues, and long-term integration on a far larger scale.

The Background Report, and in some cases the workshop presentations, create a “sky is falling” impression by discussing issues without putting them in the proper perspective. The proper perspective is that none of the wind-specific issues are “showstoppers” to meeting the RPS goals; rather, they are manageable technical issues that can be resolved as wind penetration increases gradually. While we need to be on our toes, we are not likely to encounter insurmountable problems as we achieve the state's RPS goals with the amount of wind capacity anticipated by the Energy Commission. Some of the problem appears to lie in the authors' reliance on stakeholder interviews rather than interviews with those most knowledgeable on these issues.⁵ Many of the statements in the Background Report are relevant only to existing projects and obsolete technology. The Report fails to account for planned technology improvements, or the types of evaluation tools commonly in use today.⁶ The result is that the report perpetuates the myths that many renewables integration studies – including the CEC's own -- are slowly but surely dismantling.

Often, the Background Report and the project team's workshop presentations suggest problems unsupported by fact or accurate citations to the literature. For example,

⁴ For example, if locational marginal pricing is introduced in California, it will affect the “curtailment priority” addressed in the Background Report's congestion question #2 (p. 13), “Where will renewable energy fit in the curtailment priority ranking when congestion exists?”

⁵ Among the many knowledgeable people that the project team could have interviewed are: the authors of the RPS Integration Cost Studies and other renewables integration experts; FERC, NERC and WECC committees or staff; wind turbine manufacturers; and wind forecasting companies. We note also that neither CalWEA nor any of its members were interviewed.

⁶ The excellent workshop presentation by Nick Miller of GE Energy addresses many of these issues, but that material is not reflected in the Project materials and it is unclear what, if any, GE's role in this effort is. We are pleased to learn, however, that Miller will be a part of the PIER project's team on these issues, as stated by George Simons at the February 3 workshop.

the summary report on wind energy in E.ON. Netz's central Germany utility system was not appropriately presented.⁷

First, the E.ON Netz report (a glossy 16-page color brochure that appears to have been designed to cast wind in a negative light) was not put in the proper perspective: installed wind capacity accounts for 33% of E.ON Netz's system peak demand – far beyond what California will achieve under its 20% renewables requirement.

Second, the E.ON report (and the Background Report and presentation) perpetuates the antiquated notion that reserves must be dedicated specifically to wind -- in this case that the wind energy on E.ON's system requires a "shadow reserve" of 80% of installed wind capacity. But this is the myth that Effective Load Carrying Capability (ELCC) studies put to rest. ELCC studies measure the contribution made by each system resource – none of which are perfectly dependable, and each of which back each other up to some degree -- to the reliability of the system. The ELCC studies conducted as part of the RPS Integration Cost Analyses⁸ ("RPS Analyses") showed that existing California wind resources add reliability value to the system in the amount of 24%, on average, of their nameplate capacity. The E.ON "80% shadow reserve" statement can likewise be viewed as meaning that E.ON's installed wind generation provides reliability value equivalent to 20% of its installed generation – not bad given the 33% penetration level of installed wind capacity relative to peak load.

Finally, the E.ON.Netz Report (at p. 14) notes that new regulations to correct many of the operational issues discussed were adopted in August 2003, but this was not noted or discussed in the Background Report or the presentation. This critical omission is another indication that the Project team is focusing on past problems rather than current practices.

There are more relevant studies than that of E.ON Netz' available (not the least of which are the CEC's own RPS Analyses). For example, a detailed technical study commissioned by the New York State Energy Research and Development Authority (NYSERDA) recently concluded that the New York State bulk power system can reliably accommodate at least 10% penetration (3,300 MW) of state-of-the-art wind generation with only minor adjustments to its existing planning, operation, and reliability practices.⁹

⁷ See p. 29 of the Background Report, and vugraph pages 7-9 in "Assessment of Reliability and Operational Issues for Integration of Renewable Generation," Presented by Jim Dyer at the Energy Commission Committee Workshop, February 3, 2005.

⁸ See "California RPS Integration Cost Analysis – Phase I: One-Year Analysis of Existing Resources," a consultant report to the Energy Commission, December 2003 (CEC Report No. 500-03-108C), and the subsequent Phase III report (P500-04-054, July 2004).

⁹ See: "The Effects of Integrating Wind Power on Transmission System Planning, Reliability, and Operations," February 3, 2005 (draft report). Available at: <http://www.nyserda.org/rps/default.asp>. See also "Xcel Energy and the Minnesota Department of Commerce Wind Integration Study – Final Report" September 28, 2004 (http://www.state.mn.us/mn/externalDocs/Commerce/Wind_Integration_Study_092804022437_WindIntegrationStudyFinal.pdf). This study suggests that up to 15% of Xcel's control area can be provided by wind energy for an integration cost of no more than \$4.40 per MWh.

Failure to analyze the California situation in a comparably competent manner and comparable depth is simply not a worthwhile effort and diverts valuable resources.

3. The issues list includes many issues that are not appropriately characterized as “renewables operational integration issues” because they are issues that are not caused by, or are not uniquely associated with, renewables.

The following identified issues are not appropriately characterized as “renewables operational integration issues” for the reasons stated. The Commission should address these issues in the IEPR as they relate to *all or many types of resources on the system*. If these issues are addressed solely with regard to renewables, (a) it would unfairly suggest that renewables (wind in particular) are the cause of these “problems” and (b) it would fail to treat the problems in the proper holistic context and therefore fail to identify appropriate solutions.

Issue 1: Load following generation and compliance with North American Electric Reliability Council Control Performance Standards

The questions asked in relation to these topics on pages 6 and 7 of the Background Report are not uniquely related to renewables. For example, “What options are available to limit the high rate of change of energy production from intermittent energy production?” (Background Report, p. 7) perpetuates the myth that wind and other intermittents impose unique burdens on the system. In fact, wind’s ramping rate is no worse than that of block-scheduled generation and some loads, such as the State Water Project.

The small regulation impact of intermittent renewable generation is confirmed by the RPS Analyses. Those studies point out that all loads and generators require regulation and load following services at some time, and that these services exist without the presence of renewable resources.

- Regarding load following, the RPS study concluded, “there is no significant impact of existing renewable generators in the load following time scale. These results are sufficiently robust so that little impact should be expected if reasonable amounts of additional renewable resources are added to the system.”¹⁰
- Regarding regulation costs, the RPS study concluded that solar facilities provide a small regulation benefit to the system, while wind and geothermal facilities impose a small regulation burden (biomass plants imposed no regulation burden). “In aggregate,” the study says, “*the wind regulation burden is lower (on an energy basis) than that imposed by loads*”¹¹ (emphasis added). As with load following, the regulation results are sufficiently robust

¹⁰ See Note 8, *supra*, p. 74 of Phase I study.

¹¹ *Ibid*, p.xii-xiii.

so that little impact should be expected if reasonable amounts of additional renewable resources are added to the system.

The authors of the RPS Analyses are now evaluating the much larger amounts of wind that are anticipated under the 20% RPS scenario. Our understanding is that their present expectation is that the regulation costs will not change significantly, and may even go down due to increased geographic diversity, and that the load following requirements will remain manageable.

Because ancillary service issues are not uniquely related to wind, nor do we have reason to expect that meeting the RPS goals will lead to significant impacts, there is no reason to belabor issues related to NERC standards, etc., in this report. The IEPR should report on the findings of the RPS Analyses on these topics, as well as similar studies from other states, all of which show remarkably comparable results.

Issue 2: Minimum load challenges and the potential need for storage

Minimum load challenges are not uniquely related to renewables and should be discussed in a broader context so as not to suggest that renewables are uniquely to blame. The DWR contracts, for example, have created significant minimum load problems. Minimum load challenges are also presented by nuclear plants and are increasingly coming from new CCGT generators that cannot cycle in reasonable time intervals. These CCGTs are becoming an increasingly large portion of the generation mix -- far too large in relation to the integration problems they pose and in view of their detrimental environmental and fuel-use issues.

Moreover, minimum load issues are being considered in the RPS least-cost, best-fit resource evaluation process, because the utilities ascribe “dump energy” costs to renewables producing during minimum load hours (during which time power from the rigid DWR contracts is already flowing – a major source of the problem).

To the extent that high levels of renewables will contribute to minimum load challenges – and this issue will be specifically evaluated in the ongoing RPS Analyses -- the utilities are free to negotiate curtailment with sellers. It is very likely that significant curtailment during minimum-load hours during the spring runoff is possible without significantly driving up the cost of wind energy. If the Project staff believes that this “solution” deserves more attention by policymakers (and if it is not already being address as part of the RPS Analysis), it could study the issue and make recommendations (see section D, below). But the minimum load problem should not be ascribed to renewables uniquely, or even in significant part. Nor would it be appropriate to suggest that clean renewable generators should not generate while fossil generators, which can cycle off, are allowed to remain on line. Instead, the IEPR’s focus should be on promoting the appropriate contractual or design choices for fossil fuel generators, and provisions to correct those faulty contracts.

As for “the need for storage” – i.e., “should energy storage be required for intermittent energy additions?” (Background Report, p. 8), the question is inappropriate. First, the RPS Analyses are likely to show that the cost of integrating significant amounts of additional wind into the system are low – so adding expensive storage would be unjustified, at least until wind penetration well exceeds currently anticipated levels. Second, as noted above, intermittent resources are not uniquely to blame for minimum load problems. The possible need for storage is at least as much associated with design and contractual choices associated with conventional generation, and with transmission alternatives, as it is with renewables. Renewables should not be singled out as is being done here. Finally, it would make no sense to build expensive new energy storage systems when the state’s existing storage resources and capabilities have not been assessed to see whether they could provide some of the services the Background Report calls for (assuming they are needed in the first place), or whether these resources could be better used to maximize overall system efficiency. In sum, the storage issue is much larger and should be much more broadly focused than is being done in this effort.

Issue 3: Reserves

The section in the Background Report on “Reserves” does not clearly define the many complicated topics that it appears to be addressing. The set of questions relate to issues of capacity credit, reserve margins, and ancillary services (operating reserves). We addressed the capacity credit/shadow reserve issue in section, B.2, above, and the ancillary services issues in the two subsections immediately above.

The issue of reserve margins and related requirements on load-serving entities is being addressed presently by the CPUC in its Resource Adequacy Proceeding. The CPUC is establishing the appropriate amount of “qualifying credit” for each type of renewable resource for purposes of meeting reserve requirements. The issue is not unique to renewables, and deserves no discussion here (except perhaps to note that it is being addressed), unless the Project staff has identified problems with and potential solutions to the CPUC’s treatment of renewables (which does not seem to be the case).¹²

Questions such as “Will there be a need for shadow generation as we introduce greater amounts of intermittent resources in the state’s resource mix” (Background Report, p. 9) falsely imply that intermittents require dedicated back-up resources. Generation resources of all types operate as part of a robust set of system resources. Each resource contributes a certain amount of reliability to the system, and no generator is perfectly reliable. Reserve requirements are established for the system as a whole, and not to specific generators (as the quoted question would imply). Wind generators are

12 CalWEA has been participating in the CPUC’s Resource Adequacy proceeding on the topic of the qualifying credit (“QC”) assigned to wind. We advocated that the CPUC use the Effective Load Carrying Capacity results of the RPS Integration Cost Studies to determine the QC for wind. Instead, the CPUC has chosen to use historical performance on a monthly basis, computed over the QF Standard Offer 1 on-peak period. We have urged the CPUC to clarify that the entire SO 1 on-peak period (noon to 6:00 p.m. summer weekdays except holidays) will be used over the previous five years. Workshop discussions suggest that this approach will be used. If so, we believe this methodology will appropriately value wind’s capacity credit.

assigned a certain amount of capacity credit (as is being done in the CPUC proceeding) for purposes of meeting resource adequacy requirements, and the capacity value of proposed wind projects is evaluated similarly in the RPS least-cost, best-fit evaluations based on the capacity analysis results in the RPS Integration Cost Studies. That the Project staff would raise “shadow reserves” as an issue reveals its misunderstanding of these issues.

Issue 8: Congestion

Issue 9: California Imports and Western Electricity Coordinating Council transfer path capability

There is a significant amount of work going on in these topic areas, in various forums, that is not referenced in the Background Report. These forums include the Seams Steering Group for the Western Interconnection (SSG-WI) and related efforts such as the Southwest Transmission Expansion Plan (STEP) process. These efforts consider, but are appropriately not limited to, anticipated renewables developments in the west. In addition, there are two CPUC-initiated transmission planning groups – the Tehachapi Collaborative Study Group and another for the Imperial Valley – that are addressing local congestion issues. This Project should summarize these efforts and indicate where more work, if any, needs to be done.

Issue 10: Resource attribute requirements and retirement risk of California-controllable generation

The questions in the background report (p. 13) make clear that this is not an issue related uniquely to renewables. See comments on Issue 1, above.

4. Some issues are not clearly described

Issue number 5, “Existing contracts and standard products,” was not described, or at least not clearly identified, in the Background Report, so it is impossible to say whether it is appropriate for inclusion in the report or adequately focused.

C. The Project Appears To Be Disconnected From, And Uninformed By, The PIER Program’s Work On Renewables Integration Issues

While the Project briefly summarizes the CEC PIER Program’s RPS Integration Cost Analyses, it appears not to have learned from them, as discussed in our comments above. Nor does this effort appear to be coordinated with the PIER program’s ongoing related work in this area.¹³ It should be. Indeed, the IEPR should draw from the California-specific analyses that the PIER program team is conducting in many of these

¹³ It is our understanding that this work is being handled through UC Davis’s California Wind Energy Collaborative.

topic areas,¹⁴ which will address directly and concretely a number of the issues that are only generally and vaguely addressed by this Project. On those issues that the PIER project is not addressing, this Project should seek the input of the PIER project team in determining which issues are worthy of highlighting and which are not, as the capabilities of the PIER project team appear to be better suited to these issue areas.

D. Response to Question 3: Are there issues or potential issues that have not been captured on the list?”

The criticisms above are not meant to imply that there are no *renewables-specific* operational integration issues deserving of California Policymakers’ attention. But they are relatively narrow in scope. Here are a few that have not been identified that come to our minds¹⁵:

- What are the ancillary service costs/benefits of, and improved operating flexibility associated with, connecting Tehachapi south and north versus south only? (CAISO staff has indicated they believe the benefits of North-South interconnection to be significant, but have not had the resources to analyze them.)
- Is it feasible to connect 900 MW to 1,500 MW of Tehachapi wind generation to PG&E via Big Creek Corridor and the Helms line to Gregg by the use of FACTS devices or Phase Shifters at the intersection of the Big Creek lines and Helms lines? Can Helms Pumped Storage be effectively coordinated with Tehachapi wind to form a higher quality or lower cost integrated resource for the system? How best would Big Creek, Helms, and Tehachapi wind be integrated, and what does the energy delivered look like at each delivery node? How does Pastoria and other conventional generation in or near the paths fit into such an optimum energy and capacity product, and what impacts, if any, would be imposed on any such conventional generators, or what portion of the regulation task should they carry?
- What procedures could the ISO implement to better balance wind resources?
- What would the benefits be of requiring wind generators to curtail during minimum load hours during the spring run-off? How much curtailment could be required of wind generators during these hours without significantly driving up the cost of wind energy? What steps would need to be taken to provide the ISO with the ability to directly curtail wind turbines? What curtailment provisions should be made in the power purchase contracts now being signed? What

¹⁴ It is our understanding that the PIER program’s RPS Analysis team is in the process of analyzing ancillary service costs and capacity credit values under the 20% RPS scenario, and that related PIER program efforts will address other topics raised in this Project.

¹⁵ The Project staff does not appear poised to do the types of analysis that would be required to answer these questions, however. The PIER program’s integration issues team may be in a better position to analyze these issues.

contractual and design mandates should be placed on new and repowered conventional generation such that it can provide regulation and curtailability?

- There are a variety of institutional barriers that should be looked at:
 - Although wind's ramping rate is not unique or extreme as compared to other resources, the CAISO does not know which direction the wind generation is moving in *because the utilities refuse to enroll their QF wind projects into the CAISO's wind forecasting program*. How can the utilities be encouraged to participate? (It should be recognized, however, that this problem will not arise with new wind projects, because they are likely to participate in the CAISO's forecasting program.)
 - There are an insufficient number of meters in wind resource areas. Currently, for example, the CAISO meters the entire Tehachapi area with only one or two meters, both far removed from the generating sites. Such poor metering practices produce insufficient and low-quality information on wind generation for system operators and also compromise proper analysis.
 - How can we get better data from the CAISO for renewables integration analyses? After two years, the RPS Integration Cost Analysis team has still not been able to obtain the data it needs to conduct robust analyses. But these are the analyses we need to determine what "problems," if any, are associated with renewables. Sufficient CAISO meter data should be available to the RPS Integration Cost team (and perhaps to the public) without restriction.

More importantly, the IEPR should look at how operation of the system as a whole can be optimized. We noted above a number of the issues that have been identified in this report that would be more appropriately addressed in a report *addressing system-wide issues*. In addition, we would add these:

- Can existing hydro and conventional resources be coordinated with intermittent renewables in a way that increases overall system reliability and efficiency and reduces transmission costs? This appears to be a potentially high value gain for the overall system, but is a complex issue to analyze.
- What is the best overall coordination strategy for the integration of intermittent renewables and hydro with conventional generation to minimize the construction of new LNG terminals, and for the reduction of GHG emissions?
- Can the CAISO N-1 and N-2 criteria be increased (with WECC approval) with increased reserves, generation coordination, storage, and other

system changes, thereby increasing Path transfer ratings, and otherwise lower system costs and increase efficiency and reliability?

- To what extent should the capacity of the main North-South or South-North corridor, Path 15 and Path 26 and other nearby potentially parallel paths, be increased in order to increase operating flexibility, reduce ancillary services costs, lower the cost of energy, and better integrate renewables into the statewide mix? Should Tehachapi be a node in this Path?
- Should Path 65 be tapped for renewables transmission capability? Should new DC links, or existing AC links converted to DC be developed to create a better overall transmission system for the state? Are charges associated with use of Path 65 appropriate and are they causing misuse or under-use of this important path?
- What system costs are associated with the trend toward CCGT technologies with less flexible capabilities, and with the DWR contracted facilities, and what should the state be doing to reverse this trend, or to correct contractual errors?

We appreciate this opportunity to comment, and would be pleased to meet with the Commission and Project staff to discuss these issues further.

Respectfully submitted,

_____/s/_____
Nancy Rader
Executive Director
California Wind Energy Association
1198 Keith Avenue
Berkeley, CA 94708
(510) 845-5077
nrader@igc.org

February 17, 2005